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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,694	08/03/2000	Kenneth N. Myers Jr.	FE-00472	9229

30743 7590 02/13/2004

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EXAMINER

STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 02/13/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/631,694	Applicant(s) MYERS JR. ET AL.	
	Examiner Thomas H. Stevens	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 03 August 2000 and 25 March 2003.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-21 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 08/03/2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
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DETAILED ACTION

Title

1. The title of the invention is vague. The following title is suggested: *An Intranet-based engineering business development and strategy program*. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. The drawings are objected to because of the following errors:
- Figures 3-7: Left margin unacceptable.
 - Figures 1-7: Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (poor line quality).
 - Myers and Beckley should label figures 1 and 6 as prior art because of its discloser.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

3. The following listing of references in the specification is not a proper information disclosure statement (pg. 13, lines 12-20): "Objects, Components and Frameworks with UML: The Catalysis Approach" by D.D'Souza et al (Addison-Wesley, Massachusetts, 1998) and "Object-Orient Modeling and Design" by J. Rumbaugh, et al. (Prentice Hall, Englewood Cliffs, NJ, 1991). 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1)

states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner, on form PTO-892, has cited the references, they have not been considered.

Applicants need to cite the following documents from the printed copy of the "Systems Design and Operation Effectiveness"¹: pg. 3 of 5, items 1-5.

Duty to Disclose All Prior Art

4. The examiner has found prior art, authored by Koonce-D et al, "*An Integrated Model for Manufacturing Information Exchange*" (17-18 May 1997) and Myers et al (one of the inventors), *Exploring the Collaborative Engineering Environment as a Critical Resource Multiplier*" (1998). The applicant is respectfully reminded of their duty to provide all known and relevant prior art at the time of application submission, see 37 C.F.R. 1.56.

Priority

5. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-21 of this application.

5a. The claims are not supported in the provisional application. The provisional application and the specification are substantially different. The provisional appears to contain little detail of the invention relative to the specification.

¹ http://www.soe.stevens-tech.edu/sdoe/People/faculty_verma.html (pg. 1-5) 2004

5b. The application appears to contain the following inventors: Myers, Beckley, Mroczek, Nguyen, Plunkett and Verma; while the provisional list Myers, Beckley, Plunkett and Verma. Therefore, priority is not granted due to different inventive entity.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-21 are rejected under the judicially created doctrine of double patenting over claims 1-20 of U. S. Patent Application No. 09/666,545 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: For example, claim 1 (09/631694) discloses a database defined by an associated information model for providing a persistent understanding of product and program information, assets and tools available in the enterprise (pg.32, lines 7-9); but doesn't disclose what type of database. However, claim 1 (09/666545) discloses the database as the objected-oriented database management system (ODBMS) as "managing an associative object model (program model) for providing a persistent understanding of product and program information, assets and tools available in the enterprise" (pg. 43, lines 7-10).

One of ordinary skill in the art at the time of invention would have used an object-oriented database because of the resultant increased functionality.

Claim Interpretation

8. Office personnel are to give claims their "**broadest reasonable interpretation**" in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See *also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed An

essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.

The instant application refers to related application 09/577,039 entitled "*Multi-disciplinary Information Engine for Total Ownership Cost Estimation of Complex Systems*," filed on May 24, 2000 by K. Myers, J. Beckley, G.Plunkett and D.Verma, as subject matter incorporated by reference. The office has received amendments to the claims for 09/577,039 by way of, for example, a new independent claim (claim 32). This would constitute new subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This new subject matter for 09577039, is therefore not incorporated by reference for application 09631694.

The examiner interprets "enterprise" as any authorized user to the Collaborative Engineering Environment.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

10. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are generally narrative and indefinite, failing to conform to current U.S. practice. See, for example:

- **Claim 1:** "...providing a persistent defined by an associative information model for providing a persistent understanding of product and program information, **assets and tools available in the enterprise**" (pg. 32, lines 7-9). -indefinite
- **Claim 12:** " an enterprise to capture **physical, functional and environmental system** requirements" (pg. 35, lines 1-2). The words physical, functional and environmental systems are indefinite.
- **Claim 16:** "**assets and tools** available in the enterprise, wherein the associative information model defines physical, functional and operational attributes of elements within at least one domain area in the enterprise and **relationships among the elements** include program, role and team" (pg. 36, lines 13-17). The words tools and assets are indefinite. The examiner assumes the phrase, "relationships among the elements", means some level of software compatibility among database programs. Rephrasing necessary.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-21 are rejected under 35 U.S.C. 102(a,b) as being anticipated over the provisional application by Myers et al. (1999). Priority to the provisional document is not obtained because the inventive entities for the provisional and non-provisional application are different, therefore “to another”. Thus Myers et al is used in this art rejection.

13. Claim 1-21 are rejected under 35 U.S.C. 102 (b) as being anticipated over Myers et al (Exploring the Collaborative Engineering Environment as a Critical Resource Multiplier (1999)). Myers teaches the Collaborative Engineering Environment (CEE) which provides a multi-disciplinary team with immediate access to all relevant program information (Abstract).

Claim 1: A computer implemented collaborative engineering environment (CEE) for providing an inter-enterprise collaborative mechanism for organizations developing and maintaining complex system products, the CEE providing a federated architecture linking multiple systems and applications together to enable collaboration among enterprise members, comprising (Abstract): a database defined by an associative information model for providing a persistent understanding of product and program information, assets and tools available in the enterprise (Figure 1); an information management service providing controlled access to the database for collaboration and;

an information transformation service receiving, sending and formatting data and acting as a bi-directional link between the database and members of the enterprise, wherein access to the data in the database is managed by the information management service, and wherein the information transformation service provides information structuring, and information mapping and exchange for domain-specific tools; and at least one domain user interface linking members of a domain in the enterprise with information in the database (column 3, paragraph 1), wherein the information available to each member is information necessary for the member to complete role and team based tasks, and wherein a domain user interface comprises access to at least one domain-specific tool, wherein each tool communicates information with the database via the information transformation service, wherein members have immediate access to data generated by any member of the enterprise, as authorized by the associative information; model defining database access and control.

Claim 2: A CEE as recited in claim 1, wherein each member communicates with the enterprise for collaboration using a standard web interface, the web interface (column 3, line 6) being customized for programs, roles and teams.

Claim 3: A CEE as recited in claim 1, wherein the information management service provides access control, security, search mechanisms, concurrency control, and versioning (column 2, lines 3) for data in the database.

Claim 4: A CEE as recited in claim 1, wherein the CEE is built with a layered software architecture comprising a database management system (DBMS), a product data management system (PDM) (columns 1 and 2; lines 39 and 1, respectively) augmenting the DBMS with engineering specific information management capabilities, and the information transformation service utilizes an extensible infrastructure for interfacing (column 4, lines 16-21) engineering or management applications into the PDM environment.

Claim 5: A CEE as recited in claim 1, wherein data in the database have a corresponding program identifier, thereby allowing multiple programs within the enterprise to access a same CEE (figure 2 and column 4, lines 22-37).

Claim 6: A CEE as recited in claim 1, wherein the CEE sends/receives information to users in a domain area, the domain area not being implemented in the collaboration environment (column 4, lines 28-33).

Claim 7: A CEE as recited in claim 6, wherein the database associative information model defines data for domain areas unintegrated into the CEE by a domain user interface (column 3, lines 1-8).

Claim 8: A CEE as recited in claim 1, wherein the CEE is implemented using

client/server technology, the database and information management services being on a server and domain user interfaces being on at least one client, and tools required by a domain being on one or both of the client and server (column 3, lines 4-8).

Claim 9: A CEE as recited in claim 1, wherein a domain user interface is implemented for one or more domain areas in the group of proposal teams, program management, system engineers, software developers, hardware developers, system integrators, testing and integration engineers, support engineers, sub-contractors, teammates, suppliers and partners, users and customers (figure 1).

Claim 10: A CEE as recited in claim 1, wherein the database is object-oriented, facilitating reuse (column 5, paragraph 3, lines 5-6) of standard elements among programs and organizations within the enterprise.

Claim 11: A CEE as recited in claim 1, wherein the associative information model is developed from a life cycle perspective of implemented domain models, each domain model overlaying system views (functional, physical, operational) and system schedules (development, production, technology refreshment/insertion, support, platform availability) with the program infrastructure (development, production, support), and wherein the domain models define relationships and standard parameters dynamically modifiable for multiple programs, projects, or teams (column 4, lines 22-37).

Claim 12: A method for implementing and using a computer implemented collaborative engineering environment, said method comprising: specifying and documenting an associative information model for an enterprise to capture physical, functional and environmental system requirements, wherein domain experts provide input into the specifying step for their particular domain; mapping the captured requirements into a database schema for a product data management system (PDM); (column 3) generating an information transformation service between data to be stored in a database managed by the product data management system and tools used by domain specialists in performance of domain tasks (column 8 paragraph 3), wherein information is stored in the database by various members of the enterprise based on the associative information model for the various member's domain area; accessing data in the database by members of the enterprise, wherein the data accessed is part of a current baseline and the data retrieved is current for all members accessed the data; and performing domain tasks by a member of the enterprise using domain specific applications, wherein results from the domain specific application are properly formatted by the information transformation service and stored in the database managed by the PDM, the data being immediately accessible to other members of the enterprise.

Claim 13: A method as recited in claim 12, wherein the CEE enables immediate information exchange in the access step for one or more domains in the group of proposal teams, program management, system engineers, software developers,

hardware developers, system integrators, test and integration engineers, support engineers, teammates, partners, subcontractors, suppliers, users, and customers (figure 1 and column 3, lines 4-8).

Claim 14: A method as recited in claim 13, wherein the access step uses a customizable standard web-based interface to provide members of the enterprise access to collaborative information (column 11, lines 14-15).

Claim 15: A method as recited in claim 14, wherein the standard web-based interface utilizes dynamic Hypertext Markup Language (HTML) generation for program customization (column 4, lines 12,13).

Claims 16: A computer implemented web-centric (column 2, lines 10-12) collaborative engineering environment (CEE) implemented using client/server technology for providing an inter-enterprise collaborative mechanism for organizations developing, integrating or maintaining complex system products (Abstract), the CEE providing a federated architecture linking multiple systems and applications together to enable collaboration among enterprise members, comprising: an object oriented database facilitating reuse of standard elements among programs and organizations within the enterprise (column 1, lines 28-32; columns 2 and 3, lines 34-36 and 4-8 respectively; and column 5, paragraph 3, lines 5-6) the database residing on a server computer and defined by an associative information model, and augmented with engineering specific

information management capabilities for providing a persistent understanding of product and program information, assets and tools available in the enterprise, wherein the associative information model defines physical, functional and operational attributes of elements within at least one domain area in the enterprise and relationships among the elements include a corresponding program, role or team; an information management service residing on a server computer providing controlled access to the database for collaboration using an access control scheme defined by policies of the enterprise, the information management service using an object oriented database management system for access and control of the database and; an information management service utilizing an extensible infrastructure to interface engineering or management applications used in a domain into the CEE environment and acting as a bi-directional link, the information transformation service receiving, sending and formatting data between the database and members of the enterprise, wherein access to the data in the database is managed by the information management service, and wherein the information transformation service provides information structuring, and information mapping and exchange for domain-specific tools; and at least one domain user interface residing on at least one client computer linking members of the enterprise with information in the database, wherein the information available to each member is information necessary for the member to complete role and team based tasks, and wherein a domain user interface allows a member access to at least one domain-specific tool (column 3, lines 5-8), wherein each tool communicates necessary information with the database via the information transformation service, and wherein

an implemented domain user interface is customized for a domain area in the group of proposal teams, program management, system engineers, software developers, hardware developers, system integrators, testing and integration engineers, support engineers, sub-contractors, teammates, suppliers and partners, users and customers (figure 1), wherein domain members have immediate access to data generated by any member of the enterprise, regardless of domain, as authorized by the associative information model defining database access and control and controlled by the information management service, and each member communicates with the enterprise for collaboration using a standard web interface, the web interface being customized for programs, roles and teams.

Claim 17: A CEE as recited in claim 16, wherein data in the database have a corresponding program identifier, thereby allowing multiple programs within the enterprise to access a same CEE (column 5, paragraph 4).

Claim 18: A CEE as recited in claim 16, wherein the CEE sends/receives information to users in a domain area (abstract: lines 6-9), the domain area not being implemented in the collaboration environment.

Claim 19: A CEE as recited in claim 16, wherein the database associative information model defines data for domain areas unintegrated into the CEE by a domain user (column 3, paragraph 4) interface.

Claim 20: A CEE as recited in claim 16, wherein the information transformation service (column 3, paragraph 1) performs some tasks, on the server (column 8, lines 1-2) and some tasks on at least one client.

Claim 21: A CEE as recited in claim 16, wherein the associative information model is developed from a life cycle perspective of implemented domains models, each domain (column 3, lines 4-8; and paragraph 3) model overlaying system views and system schedules with the program infrastructure for development, production or support, and wherein the domain models define relationships and standard parameters dynamically modifiable for (column 3, paragraph 4; column 4 lines 1-3) multiple programs, projects, or teams.

14. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Myers et al ("System Design to Affordability in a Collaborative Systems Engineering Environment" (1998)). Myers teaches integrating Cost as Independent Variable (CAIV) concepts for Commercial-Off-the-Shelf (COTS) intensive combat systems engineering into a Collaborative Engineering Environment (CEE) (Abstract). See figures 1, 3-6 and corresponding text.

Correspondence Information

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Stevens whose telephone number is (703) 305-0365, Monday-Friday (8:30 am- 5:00 pm) or contact Supervisor Mr. Kevin Teska at (703) 305-9704.

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 305-3900.

February 5, 2004

THS

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